Background

• **Context** – Duty hour regulations have increased number of transitions of care among residents. The sign-out of a laboring OB patient is unique because of the rapidly changing status of the patients. A lack of a standardized method was limiting effectiveness of the sign-out.

• **Rationale** – We sought to identify the obstacles to effective sign-out of OB patients. Using this information, we intend to create a sustainable structure for sign-out that would improve communication between teams.
The Team

• Division
  • Luke Newton, MD, OB-GYN, Assistant Program Director & Team Leader
    – Elly Xenakis, MD, OB-GYN, Program Director
    – Jennifer Peel, PhD, Assistant Dean, GME
    – Lisa Hutcherson, Program Manager, GME
    – Jenna Banner MD, OB-GYN PGY -2
    – Nancy Ray, CNO-UHS
    – Facilitator: Edna Cruz MSc, RN, CPHQ

• Sponsor Department
  – Robert Schenken, M.D. – Chair
What Are We Trying to Accomplish?

OUR AIM STATEMENT

To improve the quantitative sign-out score by 25% during sign out (transition of care) of OB patients between resident shifts by December 1, 2013.
Project Milestones

- Team Created 8/2013
- AIM statement created 8/2013
- Weekly Team Meetings 9/2013 – 1/2014
- Background Data, Brainstorm Sessions, 9/2013
  Workflow and Fishbone Analyses
- Interventions Implemented 11/27/2013
- Data Analysis 11/2013-1/2014
- CS&E Presentation 1/17/2013
How Will We Know That a Change is an Improvement?

• Types of measures – The team selected a qualitative measure in the form of a survey and a quantitative scoring system to measure the quality of the sign out. The design for both measures will be a pre and post timed series comparison.

• How you will measure – The survey was administered electronically via survey monkey and the sign out via direct observation and measurement.

• Specific targets for change - To improve the quantitative sign-out score by 25% during sign out (transition of care) of OB patients between resident shifts by December 1, 2013.
Swim Lanes

Process Name: OB / GYN Night to Day Handoff

Who?
- Interns, Residents & Faculty

**O.B. Night Team**
- NIGHTS Team Available? Y
  - NIGHTS Team has UTD Info? Y
  - Paper Chart to Meeting Room
  - 7am Arrival for Handoff?
  - Interruption?
    - Y
      - Handoff complete on all OB pts?
        - Y
          - Begin next GYN/ONC Handoff
        - N
          - Handoff complete on all GYN/ONC pts?
            - Y
              - Morning Handoff
            - N
  - N
    - Interruption?
      - Y
        - Handoff complete on next OB Pt.
      - N
        - Handoff complete on all GYN/ONC pts?
          - Y
            - Morning Handoff
          - N

**O.B. Day Team**
- Day Team Arrives to Round
- Rounds Ends

**G.Y.N./O.N.C.**
- GYN/ONC Arrives to Round
- Rounds Ends
- Faulty Arrive to Round
- Rounds Ends

Begin Handoff Info:
- One Liner on Pt
- Gestational Age
- Diagnosis
- Hospital Course
- Labor Curve
- I&O If applicable
- Plan
- Acceptance of Plan by incoming team
- Interruptions
- Identified Omissions
OB-GYN – Transition of Patient Care – Cause & Effect Diagram

**INTERUPTIONS**
- I-Pad
- Distracted Residents
- Unprepared Residents
- e-Phones

**Attitude** (Intimidation)
- Faculty Questions
- Unprepared Residents
- Complicated Pts NOT consistently seen by PG-4

**Mid-Level Participation**
- Team Rounds
- Fear being Challenged by MGM
- Other duties
- Criticized for approved L&D Staff
- Pt. Care Obligations
- care Mgmt.
- Non-critical staff
- in Hand-Off Fail to take ownership for
- Side Bar Chatter (3)
- Decisions / Complications

**Ineffective Hand-off**
- Reporting expectations
- Differ among Individuals
- Inadequate Note taking
- Pertinent Information
- Discussed outside of hand-off
- Resident Handing off Patient was not caring for the Patient during day
- Poor Division of Duties
- Lower Levels NOT aware of ALL Patients

**Time Constraints**
- Hand-Off occurs
- During busy time of day
- OR Time
- Inopportune Time
- During emergencies
- During Patient transfers from Clinic

**Residents Unprepared For Hand-off**
- Late Attendance
- Time & Attendance
- Early Departure
- 15 minutes is not Enough time (3)
- No Lab Values
- No Disposition
- Incomplete Knowledge
- Unclear Diagnosis
- Overnight OR
- Pertinent Info vs 1 hr hand-off
- Work Load Balance
- Complicated Patients (4)
- Unexpectedly Detain MD

**Information NOT Pertinent To Hand-off**
- Report too little Information
- Lack Prioritization
- Report too much unnecessary Info.
  - ie. Rubella & Pap
  - Fail to report Pertinent info.
  - ie. Severe Anemia, HBP,
  - Hemorrhage, Pertinent Hx

**Residents Unprepared For Hand-off**
- Complicated Pts NOT consistently seen by PG-4

**Poorly Completed Hand-Off**
- List
- Lack Hand-off Training
- No Census List
- No Training on List Completion

**Residents Unprepared For Hand-off**
- Overwork
- Incomplete Knowledge
- Unclear Diagnosis
- Unexpectedly Detain MD

**Training**
- Midwives & NPs
  - Evaluate Complicated Pts.
  - unfamiliar to residents
<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>One liner on patient</td>
<td>23/23 or 100%</td>
<td></td>
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<tr>
<td>Gestational age</td>
<td>21/21 or 100%</td>
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<td>Diagnosis</td>
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</tr>
<tr>
<td>Hospital course</td>
<td>19/21 or 90%</td>
<td></td>
</tr>
<tr>
<td>Labor curve</td>
<td>6/9 or 67%</td>
<td></td>
</tr>
<tr>
<td>I&amp;O if applicable</td>
<td>7/11 or 64%</td>
<td></td>
</tr>
<tr>
<td>Plan</td>
<td>11/23 or 48%</td>
<td></td>
</tr>
<tr>
<td>Acceptance of plan by on-coming team</td>
<td>2/23 or 9%</td>
<td></td>
</tr>
<tr>
<td>Interruptions</td>
<td>5/23 or 22%</td>
<td></td>
</tr>
<tr>
<td>Identified omissions</td>
<td>4/23 or 17%</td>
<td></td>
</tr>
</tbody>
</table>
UT Medicine -- OB/GYN Transition of Care Improvement Team

Sign Out Quality Score

Pre-Intervention Data

Mean (X) Chart where n=23

Mean (X) Sign Out Evaluation Values

UCL: 113.2
CL: 68.5
LCL: 23.7
Survey results: pre-intervention

<table>
<thead>
<tr>
<th>To what extent do each of the following inhibit meaningful communication in the current signout process?</th>
<th>Pre-Intervention</th>
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<tbody>
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<td>Being called away for clinical duty</td>
<td>15.15%</td>
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<td>Presentation of information that is not pertinent to signout</td>
<td>21.21%</td>
<td></td>
</tr>
<tr>
<td>Omission of pertinent information</td>
<td>18.18%</td>
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<td>Lack of faculty attendance</td>
<td>3.03%</td>
<td></td>
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<td>0.00%</td>
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Survey results – pre-intervention

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<td>signout (not presented at all)?</td>
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<td></td>
</tr>
<tr>
<td>omitted?</td>
<td>YES</td>
<td>45.45%</td>
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</table>
What Changes Can We Make That Will Result in an Improvement?

1. An hour training on the new sign out structure (to include overall census, and new order for reporting 1st OB, 2nd Triage, 3rd GYN etc.) = Simplification & Standardization of new process

2. "Game Rules" for the sign out = Standardizes behavior and cultural change

3. Putting the resident on the improvement team for continued data collection and to improve communication – Sustainability

4. Poster in conference room showing the structure, new order and game rules for all to see, review and as a reminder during the sign out. = Checklist and cognitive aids improve performance
Implementing the Change

• Hour long training on the new sign-out structure
  – Implementation – We evaluated multiple standardized sign-out tools and modified them to best fit laboring patients to create our expected template.

• "Game Rules" for the sign out
  – As part of the training, we involved the residents and faculty in the making of the rules.
  – Clearly stated expectations for attendance, preparation and delivery will allow for more engaged teams and civil transfer environment.
Order of presentation

1. One liner with age, parity and diagnosis gestational age
2. Diagnosis/presenting complaint
3. Pertinent: PAP, pregnancy complications and prenatal labs
   (685 or L/S on all patients)
4. Hospital course/labor curve/admit labs
5. HCG of all preeclampsia and PPISH patients
6. Clearly stated plan
7. Opportunity to ask questions/clarify
8. Outstanding team restatement of the plan

Rules of sign-out

1. Starts promptly at 7 am
2. All OFR charts must be present and updated
3. Every patient must have a STATED PLAN
4. Every plan must be verbally summarized by the oncoming team.
5. Clarifications and questions should occur at the completion of each patient's presentation.
6. No side conversations
7. Rubella status is rarely important for sign-out
Implementing the Change

• Resident participation in QI team (Dr. Banner)
  – Participation allows more broad ideas and realistic solution.
  – All residents participated in the “making of the rules” which allowed more broad based support.

• Sustainability with permanent guides and training
  – A poster in conference room serves as constant template.
  – All faculty participated in training.
  – Incoming residents will receive similar training.
  – The scoring system created for the QI project can be used to grade resident’s presentations at sign-out (New ACGME requirement).
Post-intervention data
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<td>8/16 or 50%</td>
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<td>No Interruptions</td>
<td>18/23 or 78%</td>
<td>16/16 or 100%</td>
</tr>
<tr>
<td>No Omissions</td>
<td>19/23 or 83%</td>
<td>16/16 or 100%</td>
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<tr>
<td>Pertinent PMH/Preg Hx/Labs (10)</td>
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Post survey results

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Return on Investment

Original Investigation

Rates of Medical Errors and Preventable Adverse Events Among Hospitalized Children Following Implementation of a Resident Handoff Bundle

Amy J. Starmer, MD, MPH; Theodore C. Sectish, MD; Dennis W. Simon, MD; Carol Keohane, RN; Maireade E. McSweeney, MD, MPH; Erica Y. Chung, MD; Catherine S. Yoon, MS; Stuart R. Lipsitz, PhD; Ari J. Wassner, MD; Marvin B. Harper, MD; Christopher P. Landrigan, MD, MPH

• JAMA December 4, 2013 Volume 310, Number 21
Return on investment

• Object of the study: To determine whether introduction of a multifaceted hand off program was associated with reduced rates of medical errors and preventable adverse events

• Results:
  – medical errors decreased from 33.8 per 100 admissions to 18.3 per 100 admissions
  – preventable adverse events decreased from 3.3 per 100 admissions to 1.5 per 100 admissions
NOT measured in the project:

• Decreased medical errors
• Decreased adverse outcomes
• Increased patient satisfaction
• Improved staff morale
• Improved sign-out efficiency (sign-out length remained the same)
Thank you!

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